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Title: Case Study 3 - Rocky Flats Plant Fires (1957 and 1969)

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Case Study 3 - Rocky Flats Plant Fires (1957 and 1969)

Steve Schreiber/David Clark

Actinide Operations/National Security Education Center

LA-UR-21-XXXXX

Agenda

1. Background
2. Simply Difficult Videos – “RFP 1957” and “RFP 1969”
 - What is accurate?
 - What is missing?
3. References
 - “A September 11th Catastrophe You’ve Probably Never Heard About” – The Atlantic (2012)
 - “The day they almost lost Denver” - BotAS (1999)
4. What changed as a result?
 - At the Rocky Flats Plant
 - At Los Alamos



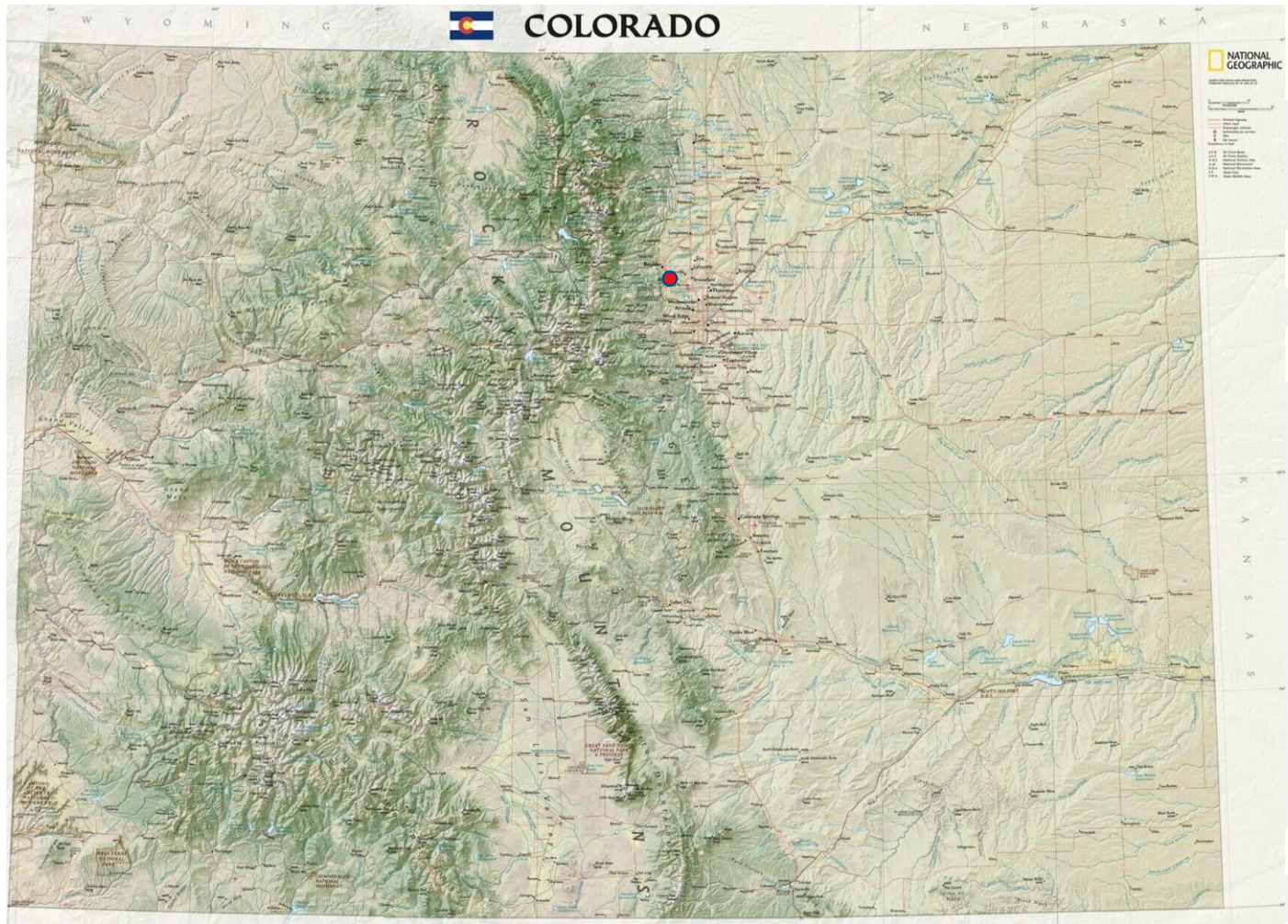
Background



Rocky Flats Plant

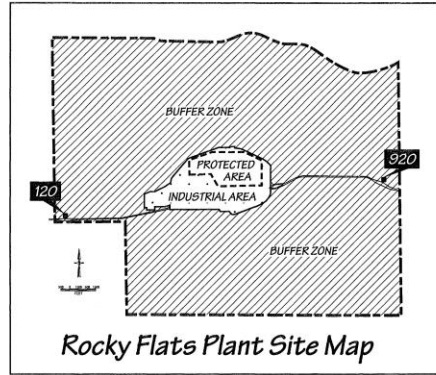
- Operational 1955-1989
- Cold War ongoing







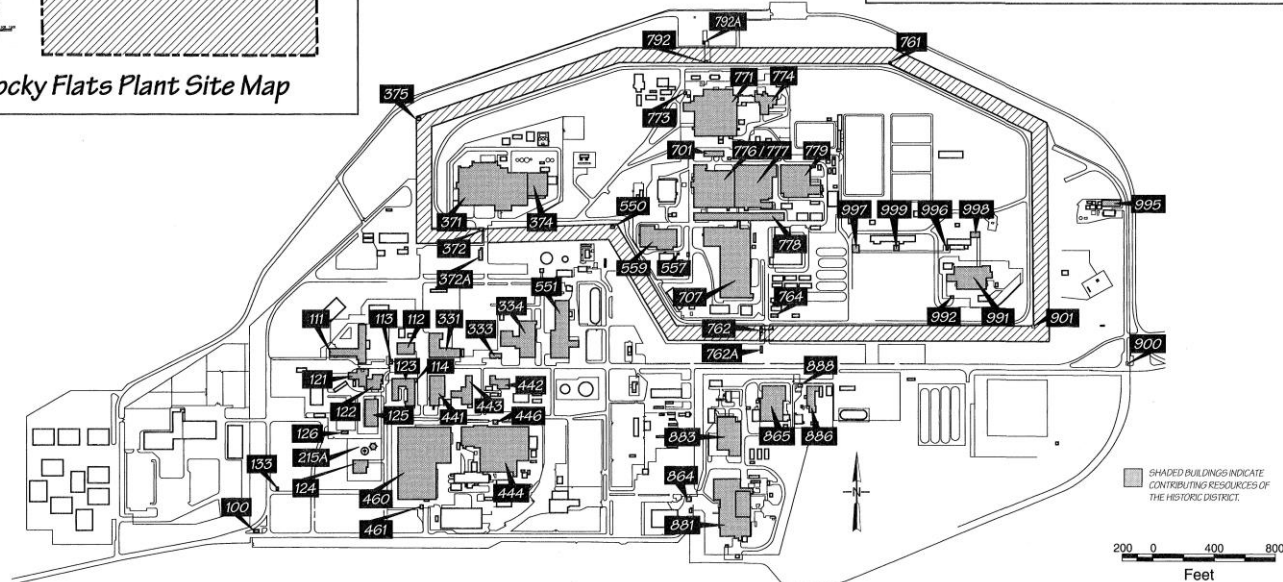
THE ROCKY FLATS PLANT HISTORIC DISTRICT



By 1992, the Plant consisted of approximately 436 structures that included 150 permanent buildings, 90 temporary trailers, and other smaller structures, temporary structures, or parts of larger buildings. Of these permanent buildings, 64 are considered contributing properties to the Rocky Flats Plant historic district as the facilities were directly associated with the mission of the plant. These buildings include the original plant built from 1951 to 1953, all of the major production facilities, the research and development buildings, the health and safety facilities, and the security structures. All of the buildings are located within the Industrial Area except the guard facilities at each site entrance.

BUILDING LEGEND

Production Work	371, 444, 460, 701, 707, 771, 776/777, 881, 883, 991, 996, 997, 998, 999
Research and Development	125, 126, 559, 779, 865
Worker Safety/Health	112, 114, 122, 123, 331, 442, 778, 886;
Security	100, 111, 113, 120, 121, 133, 372, 372A, 375, 440, 446, 461, 550, 557, 761, 762, 762A, 764, 773, 792, 792A, 864, 888, 900, 901, 920, 992
Administration	441
Infrastructure	124, 215A, 443, 551, 995
Maintenance	333, 334
Production Waste Treatment	374, 774



DESIGNED BY: Margaret N. Leckie, for engineering-environmental Management, Inc., 1998

INTERMOUNTAIN SUPPORT OFFICE / DENVER

SHOWN IN THE COURTESY OF THE DISTRICT

GOLDEN VICINITY

BOUNDARY BY HIGHWAYS 93, 126, AND 72 AND INDIANA STREET - ENTRANCE ON HIGHWAY 93

ROCKY FLATS PLANT

JEFFERSON COUNTY

COLORADO

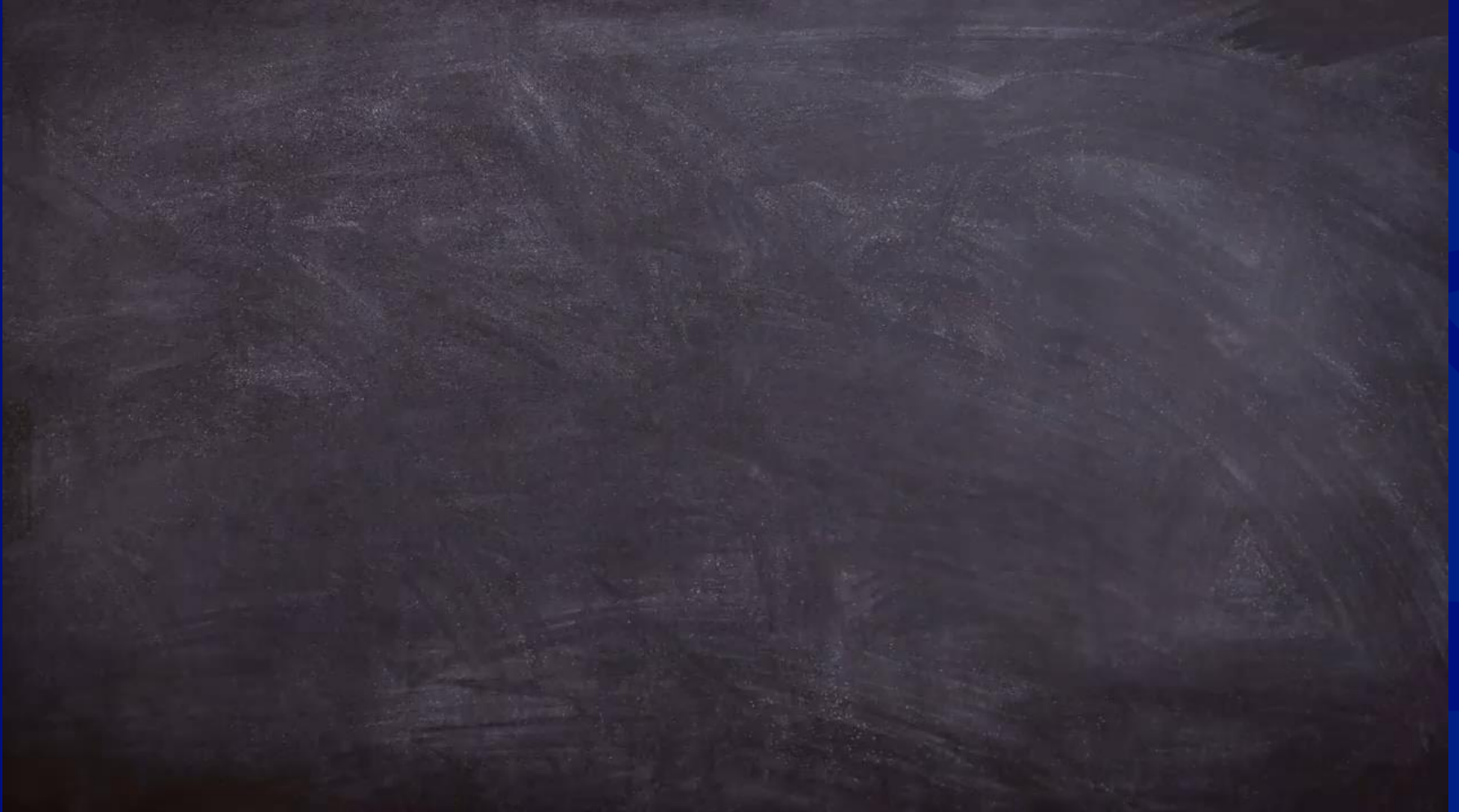
SHEET

6 - 17

HISTORIC AMERICAN ENGINEERING RECORD

CO-83

IF REPRODUCED, PLEASE CREDIT: HISTORIC AMERICAN ENGINEERING RECORD, NATIONAL PARK SERVICE, BUREAU OF DELINEATION, STATE OF THE PLANNING



What is accurate? What is missing?

- Amounts of material released





What is accurate? What is missing?

- The fire initiated ~1400 in Building 776
- The fire was drawn through the glovebox line by the glovebox ventilation system
- Few fire breaks in this line, a large portion of the building was affected by the fire
- The fire was contained by ~1840 and extinguished by ~2000
- The plant manager delayed the use of water to fight the fire citing criticality safety concerns
- Fire damage was severe and it required heroic efforts by the firefighters to maintain the integrity of the building



What is accurate? What is missing?

- Rocky Flats Plant fire experience 1966 to May 1969
 - 164 fires reported to the site Fire Department
 - 31 involved Pu of which 10 occurred in Building 776/777
 - Of the balance of 133 fires, 17 occurred in Building 776/777
 - There is no good estimate of the number of Pu fires that were not reported to the Fire Department presumably because they were extinguished by operations personnel



Aftermath Building 771



Aftermath Building 771



What does a plutonium or uranium metal fire look like?







Questions?

